

(Title):

Heavy quark measurements by single electrons in the PHENIX experiment

(Name):

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(Abstract):

Strong suppression of light flavor mesons at high p_T has been observed in relativistic heavy ion collisions at RHIC. The suppression is ascribed to jet quenching effects of light quarks and gluons and reveals that very dense matter is created that is not conventional hadronic matter. Heavy quarks (charm/bottom) provide probes of the newly created matter with important differences. Heavy quarks are predicted to lose less energy in the medium because of their large masses, and to have much longer thermal equilibration time constants. PHENIX has measured single (nonphotonic) electrons in $1.0 < p_T < 5.0$ GeV/c which are produced from semileptonic decays of heavy flavor mesons in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV and reported very large suppression, similar to that for light mesons. This talk will show the latest results of single electron measurements in PHENIX which covers lower and higher p_T region. Especially, the new result in $p_T > 5.0$ GeV/c is important to understand unknown bottom quark behavior in the very dense matter.